REMARKS

Claims 15 through 27 are under examination in this application. Claims 15 through 27 were rejected. Claim 15 has been amended herein. No new matter has been added by way of this amendment.

Rejection of Claim 15 under 35 U.S.C. § 102(b)

Claim 15 stands rejected under 35 U.S.C. § 102(b) as being anticipated by WO 90/13292, hereinafter "WO patent". Applicant respectfully traverses this rejection for, at least, the following reasons. The Office states in the previous Office Action, that the claims are rejected over WO 90/13292 because the WO patent teaches is limited to the use of Lipoxin A_4 for the treatment of vasoconstriction which is found in diseases such as asthma allergic reactions and inflammatory reaction in different parts of the body (page 8, lines 16-31). Further, the Office states that "such use would inherently inhibit the activation of an inflammatory cell." Also, the Office states that the reference also teaches the synthetic analogues of lipoxin A_4 (page 6, lines 14-17).

The WO Patent Does Not Teach Synthetic LXA_4 Analogues

This characterization of the WO patent is disingenuous at best. In particular, the passage cited to by the office at page 6, lines 14-17 states merely that "lipoxin A_4 or an active derivative thereof, including synthetic analogues of LXA_4 which are converted by the body to LXA_4 or an active derivative thereof and pharmaceutically suitable salts thereof." In fact, synthetic LXA_4 derivatives that are converted in the body to LXA_4 are not what is *required* by claim 15. As amended herein, claim 15 requires a lipoxin compound that "is an analog of natural lipoxin A_4, and wherein the analog of natural lipoxin A_4 has a metabolic transformation region different from the natural lipoxin A_4 resulting in a longer half-life than natural lipoxin." Specific support for this amendment is found in the specification at [0043]. For this reason alone, the rejection is overcome and should be withdrawn.

Further, applicants point out that if the analogue was converted by the body to LXA_4 it would have virtually the same half-life as the natural lipoxin. Further, this is stated in the specification. A "lipoxin analog having a longer tissue half-life than corresponding lipoxins"

refers to a compound which has an 'active region' that functions like the active region of natural lipoxin (e.g. LXA_4 or LXB_4), but which has a 'metabolic transformation region' that differs from natural lipoxin. By 'active region' is meant the region of a natural lipoxin or lipoxin analog, which is associated with in vivo cellular interactions. the active region may bind the 'recognition site' of a cellular lipoxin receptor or a macromolecule or complex of macromolecules, including an enzyme and its cofactor." [0043]. Thus, as discussed in the instant specification and as required by the claims, the LXA_4 analogue of the instant invention has a different metabolic transformation region and a longer half-life than does the natural LXA_4 or its naturally occurring analogs. Therefore, for this reason, the rejection is overcome and should be withdrawn.

Further "metabolic transformation region" refers to that portion of a lipoxin, a lipoxin metabolite, or lipoxin analog including a lipoxin analog metabolite, upon which an enzyme or and enzyme and its cofactor attempts to perform one or mere metabolic transformations which that enzyme or enzyme and cofactor normally-transform on lipoxins." [0044]. Thus, if the metabolic transforming region differs from natural lipoxin, it cannot be converted by the body to LXA_4 as is taught in the WO patent. Therefore, for this reason alone, the rejection over the WO patent is overcome.

However, Applicants' further point to the next paragraph. "[A] lipoxin analog with a longer tissue half-life may be designed with chemical modifications which inhibit, resist, or raise the transition state energy of an analog or its metabolite for at least one of the metabolic transformations. Thus, because the "WO patent" clearly does not teach LXA_4 analogues which are converted to LXA_4 in the body, but analogues which have LXA_4 agonist properties. the rejection is overcome and should be withdrawn. Finally, Applicant's point out that the traversal is complete even though the actions of the analogues do occur in the same parts of the body as natural lipoxins and analogues that are converted to LXA_4 in the body.

Rejection of Claims 15 through 27 Under 35 U.S.C. § 112, First Paragraph

Claims 15 through 27 stands rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for treating certain disorders associated with columnar epithelial inflammation, does not reasonably provide enablement for treating all conditions

associated with columnar epithelial inflammation. Applicant respectfully traverses the rejection for at least the following reason.

The rejection is overcome, at least for the following reasons. Claim 1 has been amended herein to recite that the invention provides a method of "inhibiting PMN infiltration of columnar epithelial and inflammation in a subject comprising, administering to a subject an effective amount of a lipoxin A_4 compound". Specific support for this amendment is found throughout the specification in the discussion of the migration of PMN across the columnar epithelial membrane and particularly at paragraph [0152] which discusses neutrophil infiltration of the epithelium.

The Examiners' assistance in pointing out the scope of the subject matter is greatly appreciated. The rejection now being overcome, withdrawal is earnestly requested.

Rejection of Claims 15 through 27 under 35 U.S.C. § 103(a)

Claims 15 through 27 were rejected under 35 U.S.C. § 103(a) as being upatentable over WO 90/13292, the "WO patent", in view of Applicant's "admission". Applicant respectfully traverses this rejection for at least the following reasons.

The WO Patent Does Not Disclose Or Discuss LXA_4 Agonists Having Differing Metabolic Regions

First, applicant notes that as discussed above for the anticipation rejection, the office has misunderstood the reference in the "WO" patent. Specifically, the WO patent describes LXA_4 analogues that are both metabolically and functionally active as lipoxins. That is, the analogues discussed in the WO patent are converted in the body to LXA_4 and are thus degraded by native lipoxin pathways, such that there would be little difference in their half-life. In contrast, the instant claims specifically require that the analog have a longer half-life than native LXA_4 and further, the specification discloses that the mechanism by which the half-life is extended is because the "metabolic transformation region" is not susceptible to transformation. Thus, the requirement and description of the analogue of the instant patent is incompatible with the citation

in the WO patent referenced by the Office. For this reason alone, the combination made by the Office cannot render the instant invention obvious.

The Offices Identification Of An "Admission" Is In Error

However, in making the combination, the Office cites to the "Applicant's admission". This "admission" is cited to be at "page 16 of the specification" and "refers to different sources, such as articles and patents to show that the compounds claimed in claims 16-27 are lipoxin A_4 analogues." However, applicants have thoroughly reviewed page 16 of the application and this part of the specification describes the synthesis of the claimed compounds. Thus, since the application actually provides for the *de novo* synthesis of the cited compounds applicants submit that this part of the rejection is in error. This is explicitly stated in paragraph [0184], for example. Further, as previously discussed, the invention provides analogues which have a functional "active region" and a different "metabolic region". As these characteristics are described in the instant specification. Whatever previous patents or other references the Office is referring to, **do not** describe the instant compounds. Thus, for this reason alone, the § 103 rejection over the "WO" patent, in view of the applicant's supposed "admission" is overcome and should be withdrawn. Applicant's respectfully request same.

Reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

In light of the above, it is respectfully submitted that the present application is in condition for allowance. Reconsideration of the present application and a favorable response are respectfully requested. If a telephone conference would be helpful in resolving any remaining issues, please contact the undersigned at 612-340-8819.

No fees are deemed necessary. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayments to Deposit Account No. 04-1420.

Respectfully submitted,

DORSEY & WHITNEY LLP

Customer Number 25763

Date: April 14, 2008

By: _____

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